UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/397,503	09/17/1999	GAURAV AGGARWAL	YO999-129	8826

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ART UNIT	PAPER NUMBER
2134	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/397,503	AGGARWAL ET AL.
	Examiner	Art Unit
	Matthew Heneghan	2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>28 October 2005</u>.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1,3,4 and 7-53</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,3,4,7-49 and 51-53</u> is/are rejected.

7) ☒ Claim(s) <u>50</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>01 November 1999</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   In response to the previous office action, Applicant has amended claims 1, 8, 33-

36, and 39. Claims 1, 3, 4, and 7-53 have been examined.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2.   Claims 4, 8-41, and 45 are rejected under 35 U.S.C. 112, first paragraph, as

failing to comply with the written description requirement. The claim(s) contains subject

matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application

was filed, had possession of the claimed invention.

Applicant has amended claims 33-36 and 39 to add the recording of an

unencoded version of the number, in addition to the encoded version. Support for this

limitation cannot be found in the original disclosure (for example, figures 2-4 only show

an encoded number), and Applicant has not stated where this aspect is disclosed.

Claims 4, 8-32, 37, 38, 40, 41, and 45 depend from rejected claim 39, and

include all the limitations of that claim, thereby rendering those dependent claims as

failing to comply with the written description requirement.

3.   In view of Applicant's amendments to the claims, all previous rejections under 35

U.S.C. 112 are withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1, 7, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to

Kaish et al. and in further view of Patent No. 6,543,685 Lien et al.

Regarding claim 1, Naccache discloses a method of guaranteeing authenticity of

an object comprising:

associating a number (identity data ID) reproducibly to said sample by using a

specific reader (Naccache, fig. 2, element 23, col. 2, line 57-61); and

forming at least one coded version of said number, said at least one coded

version being obtained by a key signature (compute SIG(ID,p), Naccache, col. 1, line

52, 55-56),

wherein said object included at least one of a chip having a recording support, said chip positioned on said object (Naccache, col. 1, line 53), and another recording support, said method further comprising:

to allow for sample-reader combinations such that the number associated to said sample is only essentially reproducible, but not exactly, recording said number on said object card on said recording support on one of said chip;

but fails providing a sample of material obtainable only by at least one of chemical and physical processes such that a measurable characteristic of said sample is random and not reproducible, and to show another recording support;

However Kaish et al. teaches that authentication of object can be performed from a particular random or non-deterministic pattern or relation of the object, preferably deterministic pattern or relation of the object, may be measured as the characteristic (sample random, Kaish, col. 9, line 21-25); and Lien et al. teaches a card encoder where one or both of the stations (recording support) needed to encoding a chip on a smart card or for adding magnetic information on the magnetic strip (another recording support may be provided) (Lien, col. 1, line 36-39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Naccache as per teaching of Kaish and Lien to gain the benefit of obtaining a legal remedy in the case of simply copying said object (Kaish, col. 22, line 34-35) and encoding a magnetic strip on the card and adding a program into an embedded chip for "smart card" status (Lien, col. 1, line 16-18).

Regarding claims 33 and 39, the ID and SIG(ID) are written to the card

(Naccache, column 1, line 53). Kaish further discloses the writing of an encrypted

representation of the material onto the sample (see Kaish, column 26, lines 21-24).

As per claim 7, Naccache also discloses a reader for reading the object (see

column 2, lines 56-64), public-key cryptography (see column 2, line 3), and information

would be written to both recording supports.

Regarding claim 47, Naccache and Lien do not disclose the use of materials that

decay over time or that it be selectively changeable.

Kaish discloses the use of materials that decay over time (see Kaish, column 15,

lines 16-29), and further suggests that this would compel expedited examination of

suspect goods.

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to further modify the invention of Naccache by using

materials that vary with time, as disclosed by Kaish, as this would compel expedited

examination of suspect goods.

5.   Claims 3, 4, 8, 19-23, 25-33, 38-40, 42, and 43 are rejected under 35 U.S.C.

103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view

of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al.

further in view of U.S. Patent No. 5,426,700 to Berson.

Regarding claims 3, 4, 33, and 39, Naccache discloses a method of

guaranteeing authenticity of an object comprising:

associating a number (identity data ID) reproducibly to said sample by using a specific reader (Naccache, fig. 2, element 23, col. 2, line 57-61); and

forming at least one coded version of said number, said at least one coded version being obtained by a key signature (compute SIG(ID,p), Naccache, col. 1, line 52, 55-56),

wherein said object included at least one of a chip having a recording support, said chip positioned on said object (Naccache, col. 1, line 53), and another recording support, said method further comprising:

to allow for sample-reader combinations such that the number associated to said sample is only essentially reproducible, but not exactly, recording said number on said object card on said recording support on one of said chip;

but fails providing a sample of material obtainable only by at least one of chemical and physical processes such that a measurable characteristic of said sample is random and not reproducible, and to show another recording support;

However Kaish et al. teaches that authentication of object can be performed from a particular random or non-deterministic pattern or relation of the object, preferably deterministic pattern or relation of the object, may be measured as the characteristic (sample random, Kaish, col. 9, line 21-25); and Lien et al. teaches a card encoder where one or both of the stations (recording support) needed to encoding a chip on a smart card or for adding magnetic information on the magnetic strip (another recording support may be provided) (Lien, col. 1, line 36-39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Naccache as per teaching of Kaish and Lien to gain the benefit of obtaining a legal remedy in the case of simply copying said object (Kaish, col. 22, line 34-35) and encoding a magnetic strip on the card and adding a program into an embedded chip for "smart card" status (Lien, col. 1, line 16-18).

The ID and SIG(ID) are written to the card (Naccache, column 1, line 53). Kaish further discloses the writing of an encrypted representation of the material onto the sample (see Kaish, column 26, lines 21-24).

Naccache and Kaish only disclose the writing of the encoded version of the information on the card.

Berson discloses also writing an unencoded version of information on a document apparatus, such as a card (see column 5, lines 11-13 and column 6, lines 23-27), in order to establish that the document is in a particular class for decryption purposes (see column 7, lines 29-37).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Naccache and Kaish by writing an unencoded version of information on the card, as disclosed by Berson, in order to establish that the card is in a particular class for decryption purposes.

As per claim 42, Naccache also discloses a reader for reading the object (see column 2, lines 56-64), public-key cryptography (see column 2, line 3), and information would be written to both recording supports.

Regarding claim 8, it is well-known in the art that some types of suitable readers, such as the magnetic-inductance reader disclosed by Naccache (see column 2, lines 9-10) have some variability in their readings due to noise; therefore, there is some variance in sequential readings. Naccache discloses an RSA signature scheme (see column 2, line 67) that outputs much less information than is input.

Regarding claim 22, the RSA signature scheme disclosed is a public-key hash function to be used on the reading taken. Private keys are part of a public key scheme.

Regarding claims 26-29, Naccache and Lien do not disclose the use of materials that decay over time or that it be selectively changeable.

Kaish discloses the use of materials that decay over time (see Kaish, column 15, lines 16-29), and further suggests that this would compel expedited examination of suspect goods.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Naccache by using materials that vary with time, as disclosed by Kaish, as this would compel expedited examination of suspect goods.

Regarding claim 19, the invention in view of Kaish may be used on instruments that are made of paper, such as banknotes (see Kaish, column 10, lines 14-27).

Regarding claims 20, 21, and 30, the signatures are computed (precomputed) dynamically before being applied to the certificate.

Regarding claim 23, a scanner is used (see Naccache, column 2, line 57).

Regarding claim 25, optional data, such as a password, may be used in the

signature (see Naccache, column 3, lines 1-10)

Regarding claims 31 and 32, Naccache and Kaish and Lien further show wherein

said forming at least one coded version of said number further comprises using

additional information for said forming said coded version, wherein said additional

information comprises the date of issue of said object (copyright text (date), Kaish, col.

22, line 31-33).

Regarding claim 37, the date of manufacture may also be in the coded version

(see Kaish, column 16).

Regarding claim 38, Naccache and Kaish and Lien claim 1 above, and further

show said forming at least one coded version of said number further comprises using

additional information for said forming said coded version, wherein said additional

information comprises the functionality of an application of said object (product

identification (functionality), Kaish, col. 22, line 31-33).

Regarding claims 40 and 43, the ID is combined with a random pattern (further

information) before encryption.

6.   Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish

et al. further in view of U.S. Patent No. 5,426,700 to Berson.

Regarding claim 34, Naccache discloses a method of preventing imitation of a

smart card, said method comprising:

associating a number (identity data ID) reproducibly to said sample by using a

specific reader (Naccache, fig. 2, element 23, col. 2, line 57-61); and

forming at least one coded version of said number, said at least one coded

version being obtained by a public key signature (compute SIG(ID,p), Naccache, col. 1,

line 52, 55-56), and said version being recorded into an area of said object (record,

Naccache, col. 2, line 53),

the ID and SIG(ID) are written to the card (Naccache, column 1, line 53),

but fail to show wherein said sample is subject to a degeneration such that said

measurable characteristic may vary over time and an authenticity of said sample is

determined by calculation whether a subsequent measurement of said characteristic

provides an associated number that is acceptably close to said initial reading; and

fail to show providing a sample of material obtainable only by at least one of

chemical and physical processes such that a measurable characteristic of the sample is

random and not reproducible;

However Kaish et al. teaches that authentication of object can be performed from

a particular random or non-deterministic pattern or relation of the object, preferably

deterministic pattern or relation of the object, may be measured as the characteristic

(Kaish, col. 9, line 21-25). Furthermore, Kaish teaches an authentication device have

adaptive capabilities to compensate for changes over time (Kaish, col. 10, line 41-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to modify Naccache as per teaching of Kaish to gain the benefit of

obtaining a legal remedy in the case of simply copying said object (Kaish, col. 22, line 34-35).

Naccache and Kaish only disclose the writing of the encoded version of the information on the card.

Berson discloses also writing an unencoded version of information on a document apparatus, such as a card (see column 5, lines 11-13 and column 6, lines 23-27), in order to establish that the document is in a particular class for decryption purposes (see column 7, lines 29-37).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Naccache and Kaish by writing an unencoded version of information on the card, as disclosed by Berson, in order to establish that the card is in a particular class for decryption purposes.

Regarding claim 35, Naccache discloses show system for guaranteeing authenticity of an object, said method comprising:

means for forming at least one coded version of said initial associated number, said at least one coded version being obtained by a public key signature, (compute SIG(ID,p), Naccache, col. 1, line 52, 55-56) and said at least one coded version and signature being recorded into an area of said object (Naccache, col. 1, line 53),

but fail to show a sample of material obtainable only by at least one of chemical and physical processes such that a measurable characteristic of the sample is random and not reproducible, said sample being placed on said object;

means for associating a number reproducibly to any said sample by using a specific reader, said specific reader providing an initial measurement of said characteristic and an initial associated number.

However Kaish et al. teaches that authentication of object can be performed from a particular random or non-deterministic pattern or relation of the object, preferably deterministic pattern or relation of the object, may be measured as the characteristic (sample random, Kaish, col. 9, line 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Naccache as per teaching of Kaish to gain the benefit of obtaining a legal remedy in the case of simply copying said object (Kaish, col. 22, line 34-35).

Regarding claim 36, Naccache discloses show system for guaranteeing authenticity of an object, said method comprising:

means for forming at least one coded version of said initial associated number, said at least one coded version being obtained by a public key signature, (compute SIG(1D,p), Naccache, col. 1, line 52, 55-56) and said at least one coded version and signature being recorded into an area of said object (Naccache, col. 1, line 53);

but fail to show a sample of material obtainable only by at least one of chemical and physical processes such that a measurable characteristic of the sample is random and not reproducible, said sample being placed on said object;

wherein said sample is subject to a degeneration such that said number may vary over time and an authenticity of said sample is determined by calculating whether a subsequent associated number is acceptably close to said recorded coded version;

However Kaish et al. teaches that authentication of object can be performed from a particular random or non-deterministic pattern or relation of the object, preferably deterministic pattern or relation of the object, may be measured as the characteristic (sample random, Kaish, col. 9, line 21-25). Furthermore, Kaish teaches authentication device that has adaptive capabilities to compensate for changes over time (degeneration, Kaish, col. 9, line 42-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Naccache as per teaching of Kaish to gain the benefit of obtaining a legal remedy in the case of simply copying said object (Kaish, col. 22, line 34-35).

7.   Claims 44, 52, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al. as applied to claim 42 above, and further in view of U.S. Patent No. 6,131,090 to Basso, Jr. et al.

Naccache, Kaish, and Lien do not disclose more than one encrypting of a number on a smartcard.

Basso discloses the repeated encryption of a number on a smartcard, making it usable in conjunction with a trusted authority (see abstract), and suggests that this

arrangement helps to allow for security against unauthorized access even if the owner cannot supply the key (see column 2, line 16-24).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, and Lien by repeatedly encrypting data on a smartcard, as disclosed by Basso, as this arrangement helps to allow for security against unauthorized access even if the owner cannot supply the key.

8.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al. further in view of U.S. Patent No. 5,426,700 to Berson as applied to claim 8 above, and further in view of U.S. Patent No. 5,949,881 to Davis.

The RSA signature scheme disclosed by Naccache is a public-key hash function to be used on the reading taken. Private keys are part of a public key scheme.

Naccache, Kaish, Lien, and Berson do not disclose the performing of the cryptographic operations on separate processors.

Davis discloses the use of a co-processor, separate from the main processor, to perform cryptographic operations, due to better performance and higher security of key material (see column 1, lines 36-42).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, Lien, and

Berson by using a cryptographic coprocessor, as disclosed by Davis, due to better performance and higher security of key material.

9.   Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al. further in view of U.S. Patent No. 5,426,700 to Berson further in view of U.S. Patent No. 5,949,881 to Davis as applied to claim 9 above, and further in view of U.S. Patent No. 6,297,888 to Noyes et al.

Regarding claim 10, Though Kaish discloses the use of an averaging algorithm to decrease the effects of noise (see Kaish, column 24, lines 10-25) and a tolerance of end results inside a certain threshold (see Kaish, column 27, line 57 to column 28, line 6), Naccache, Kaish, Lien, Berson, and Davis do not disclose the dropping of readings outside a certain range.

Noyes discloses the averaging of a set of readings and the dropping of readings on the edge of a region, to reduce the effects of noise (see column 10, lines 57-64).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, Lien, Berson, and Davis by averaging of a set of readings and the dropping of readings on the edge of a region, as disclosed by Noyes, to reduce the effects of noise.

Regarding claim 11, Naccache discloses a public-key algorithm to verify the user's ID (see column 2, lines 67-68). This result is the basis for accepting a card.

10.   Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to

Kaish et al. further in view of Patent No. 6,543,685 Lien et al. further in view of U.S.

Patent No. 5,426,700 to Berson as applied to claim 8 above, and further in view of U.S.

Patent No. 6,297,888 to Noyes et al.

Regarding claim 12, Though Kaish discloses the use of an averaging algorithm to

decrease the effects of noise (see Kaish, column 24, lines 10-25) and a tolerance of end

results inside a certain threshold (see Kaish, column 27, line 57 to column 28, line 6),

Naccache, Kaish, Lien, and Berson do not disclose the dropping of readings outside a

certain range.

Noyes discloses the averaging of a set of readings and the dropping of readings

on the edge of a region, to reduce the effects of noise (see column 10, lines 57-64).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the invention of Naccache, Kaish, Lien, and

Berson by averaging of a set of readings and the dropping of readings on the edge of a

region, as disclosed by Noyes, to reduce the effects of noise.

Regarding claim 13, Naccache discloses a public-key algorithm to verify the

user's ID (see column 2, lines 67-68). This result is the basis for accepting a card.

11.   Claims 14 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to

Kaish et al. further in view of Patent No. 6,543,685 Lien et al. further in view of U.S. Patent No. 5,426,700 to Berson as applied to claim 39 above, and further in view of U.S. Patent No. 6,155,605 to Bratchley et al.

Regarding claim 14, Naccache, Kaish, Lien, and Berson do not disclose the sensing of degeneration of a sample.

Bratchley discloses the reading of emission decay characteristics in a sample (see column 6, line 34), and further notes that such a characteristic is one of a high-security entity (see column 6, lines 8-9).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, Lien, and Berson by detecting the emission decay, as disclosed by Bratchley, as such a characteristic is one of a high-security entity.

Regarding claim 37, Kaish also discloses a date being placed on the label (see Kaish, column 27, line 27), which is a type of timestamp. Decay can over be measured over time, and Bratchley does not disclose the means by which this would be done; therefore, a predictable decay could be measured using that timestamp.

12.   Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al. further in view of U.S. Patent No. 5,426,700 to Berson as applied to claim 39 above, and further in view of U.S. Patent No. 6,131,090 to Basso, Jr. et al.

Naccache, Kaish, Lien, and Berson do not disclose more than one encrypting of a number on a smartcard.

Basso discloses the repeated encryption of a number on a smartcard, making it usable in conjunction with a trusted authority (see abstract), and suggests that this arrangement helps to allow for security against unauthorized access even if the owner cannot supply the key (see column 2, line 16-24).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, Lien, and Berson by repeatedly encrypting data on a smartcard, as disclosed by Basso, as this arrangement helps to allow for security against unauthorized access even if the owner cannot supply the key.

13.   Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al. further in view of U.S. Patent No. 5,426,700 to Berson as applied to claim 39 above, and further in view of U.S. Patent No. 5,257,389 to Liu et al.

Naccache, Kaish, Lien, and Berson do not disclose the recording of data in base 3.

Liu discloses the writing of readings in as 1, -1, or 0 (i.e. a base 3 equivalent) and suggests that this leads to an acceleration of input product convergence (see abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to modify Naccache, Kaish, Lien, and Berson by storing numbers

in base 3, as disclosed by Liu, as this leads to an acceleration of input product

convergence.

14.   Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent

No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al.

further in view of Patent No. 6,543,685 Lien et al. as applied to claims 1, 8, and 9

above, and further in view of U.S. Patent No. 6,297,888 to Noyes et al.

Though Kaish discloses the use of an averaging algorithm to decrease the

effects of noise (see Kaish, column 24, lines 10-25) and a tolerance of end results

inside a certain threshold (see Kaish, column 27, line 57 to column 28, line 6),

Naccache, Kaish, and Lien do not disclose the dropping of readings outside a certain

range.

Noyes discloses the averaging of a set of readings and the dropping of readings

on the edge of a region, to reduce the effects of noise (see column 10, lines 57-64).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the invention of Naccache, Kaish, and Lien

by averaging of a set of readings and the dropping of readings on the edge of a region,

as disclosed by Noyes, to reduce the effects of noise.

15.   Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent

No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al.

further in view of Patent No. 6,543,685 Lien et al. as applied to claim 1 above, and

further in view of U.S. Patent No. 6,233,339 to Kawano et al.

Naccache, Kaish, and Lien do not suggest that the change in readings should be

used to detect the altering of a container.

Kawano discloses a system wherein changes in pressure, caused by a piercing

of the container, can be used to detect tampering (see column 10, lines 49-61).

Therefore it would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify the invention of Naccache, Kaish, and Lien by

detecting changes in pressure, as disclosed by Kawano, in order to detect tampering.

16.   Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent

No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al.

further in view of Patent No. 6,543,685 Lien et al. as applied to claim 1 above, and

further in view of U.S. Patent No. 6,155,605 to Bratchley et al.

Naccache, Kaish, and Lien do not disclose the sensing of degeneration of a

sample.

Bratchley discloses the reading of emission decay characteristics in a sample

(see column 6, line 34), and further notes that such a characteristic is one of a high-

security entity (see column 6, lines 8-9).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, and Lien by detecting the emission decay, as disclosed by Bratchley, as such a characteristic is one of a high-security entity.

Kaish also discloses a date being placed on the label (see Kaish, column 27, line 27), which is a type of timestamp. Decay can over be measured over time, and Bratchley does not disclose the means by which this would be done; therefore, a predictable decay could be measured using that timestamp.

17.   Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al. as applied to claim 1 above, and further in view of U.S. Patent No. 3,795,805 to Swanberg et al.

Naccache does not disclose the dividing of the card into regions.

Kaish further discloses the dividing of the label into regions, thereby making the data and the medium selectively changeable (see column 28, lines 7-43), thus allowing for the avoidance of having to encrypt the entire certificate.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Naccache by using materials that vary with time and are divided in regions, as disclosed by Kaish, as this would allow for the avoidance of having to encrypt the entire certificate.

Naccache, Kaish, and Lien do not disclose support for destroying a portion of being destroyed by a reader to make a payment.

Swanberg disclose the use of cards in the commuter transportation industry, wherein a reader (the attendant) punches the card when it is used, thus destroying one of the objects on the card. This allows for the offering of reduced rate multiple ride cards (see column 1, lines 5-15).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, and Lien by issuing cards for a reader to punch when it is used, as disclosed by Swanberg, as this allows for the offering of reduced rate multiple ride cards.

Allowable Subject Matter

18.   Claim 50 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

19.   Claims 15-18 and 24 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, 1st paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

20.   The following is a statement of reasons for the indication of allowable subject

matter:

Claims 15-18 and 50 would be allowable for the reasons stated in the previous

office action.

Claim 24 would be allowable based upon the fact that none of the references

cited employ a detection scheme that monitors the exposed face of a mineral or glass

sample.

Response to Arguments

21.   Applicant's arguments, see Remarks, filed 28 October 2005, with respect to the

rejections of the claims under 35 U.S.C. 103 have been fully considered and are

persuasive in view of Applicants amendments. Therefore, the rejection has been

withdrawn. However, upon further consideration, new grounds of rejection are made in

view of the previously cited art and, in some cases, Berson.

22.   Regarding Applicant's argument #1, the recording of the unencrypted number is

not claimed in claim 1, which only claims the recording of a number, which may be

considered to be either encrypted or unencrypted; it is now claimed in claims 33-36 and

39, and the grounds of rejection have therefore been changed for those claims.

23.   Regarding Applicant's argument #2, the signature scheme is the claimed digital

representation; it is the variance in readings makes the reading of "more information"

obvious.

24.   Regarding Applicant's argument #3A, there are many types of materials other

than steel balls that can be encased in plastic, including fibers.

25.   In response to applicant's argument #3B that the claimed invention does not

contain intellectual property information such as copyrights, the fact that applicant has

recognized another advantage which would flow naturally from following the suggestion

of the prior art cannot be the basis for patentability when the differences would

otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter.

1985).

26.   Regarding Applicant's argument #4, it continues to be stated in the grounds of

rejections that Lien's motivation is found in column 1, lines 16-18.

27.   Regarding Applicant's argument #5, the use of a separate processor for

signature generation was not disclosed in the previously cited art; this feature, however,

is well-known in the art, and new grounds of rejection have therefore been made for

claims 9-11.

28.   Regarding Applicant's argument #6, Kaish discloses the use of materials to be

use in place of steel marbles that would decay over time, such as materials that decay

from ambient light or a progressive chemical reaction.

29.   Regarding Applicant's argument #7, the extra information, as noted in the

response to argument #3B, satisfies claim 32.

30.   Regarding Applicant's argument #8, In response to applicant's argument that

Basso, Liu, and Noyes are nonanalogous art, it has been held that a prior art reference

must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent

to the particular problem with which the applicant was concerned, in order to be relied

upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443,

24 USPQ2d 1443 (Fed. Cir. 1992). In this case, each piece of art teaches to a

particular concept that is pertinent to Naccache and Kaish.

31.   Regarding Applicant's argument #9, see argument #6.

32.   Regarding Applicant's argument #10, Kawano invention may still have a rigid

exterior. Kawano's modification constitutes a seal, since its piercing is being treated as

a tamper event.

33.   Regarding Applicant's argument #11, since the card may be divided into regions

as per Kaish, the destruction of one region does not render the entire card inoperative.

34.   Regarding Applicant's arguments #12-#14, no reason can be found that the

respective references do not teach to the cited limitations.

Conclusion

35.   Due to the new grounds of rejection for claims 9-11, this action is non-final.

36.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Matthew E. Heneghan, whose telephone number is

(571) 272-3834. The examiner can normally be reached on Monday-Friday from 8:30

AM - 4:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Gregory Morse, can be reached at (571) 272-3838.

Any response to this action should be mailed to:
Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450
Or faxed to:
(571) 273-3800.

Any inquiry of a general nature or relating to the status of this application or

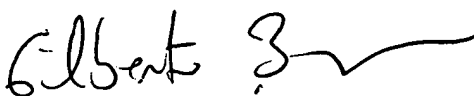proceeding should be directed to the receptionist whose telephone number is (571) 272-

2100.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

MEH

January 3, 2006

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